REMARKS/ARGUMENTS

Claims 1, 3-12, 14-18, and 20 are pending in the present application. Claims 1, 7-9 and 12 have been amended herewith. Reconsideration of the claims is respectfully requested.

I. 35 U.S.C. § 101

Claims 12 and 14-17 stand rejected under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. This rejection is respectfully traversed.

With respect to Claim 12, the Examiner states that such claim is directed to software per se, and thus does not fall within one of the four statutory classes of proper/eligible subject matter. Applicants urge that an 'apparatus' is a 'machine',[1] and thus Claim 12 does fall within a proper class of eligible subject matter under 35 U.S.C. 101.

With respect to Claim 14 (and dependent Claims 15-17), such claim complies with the USPTO's guidelines regarding proper statutory subject matter. For example:

> "When functional descriptive material is recorded on some **computer-readable medium** it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)(claim to data structure stored on a **computer readable medium** that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1760 (claim to data structure *per se* held nonstatutory)" (emphasis added by Applicants).

Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility. [2]

Therefore, the rejection of Claims 12 and 14-17 under 35 U.S.C. § 101 has been overcome.

II. 35 U.S.C. § 102, Anticipation

Claims 1-20 stand rejected under 35 U.S.C. § 102 as being anticipated by Schunk et al. (U.S. Patent No. 6,980,515), hereinafter "Schunk". This rejection is respectfully traversed.

Generally speaking, it is urged that the cited reference is non-analogous art that is directed to a telecommunication system that provides a switch for interconnecting telephone calls, and is not directed

[1] See, e.g., Attachment I attached hereto.
[2] http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf

to a complex data processing system, as claimed. In particular, Claim 1 recites that the composite resource is a cluster, where the cluster is a plurality of server data processing systems aggregated together in a computing cooperative fashion such that at least some data resources of the plurality of server data processing systems are usable by another of the plurality of server data processing systems. Claim 12 recites that the composite resource is a grid, where grid is a plurality of client and server data processing systems that operate to provide a plurality of computing resources for a common task to be performed by the grid.

Specifically, the cited reference does not teach either a cluster or a grid. Instead, the cited Schunk reference describes a multi-service *network switch* that is capable of providing tiered access to the Internet (col. 1, lines 16-18). Such tiered Internet access is described by Schunk as being different access levels to network connection requests for prioritizing them when there is competition for a resource (col. 1, lines 59-62). This Schunk switch is operable to provide multiple services including modem and ISDN services, frame relay support, LAN interfaces, and layer-2 and layer-3 switching from a single platform (col. 1, line 66 – col. 2, line 3). The switch is able to provide different quality of access levels for each incoming connection request to thereby allow the switch to prioritize the incoming connection requests when there is competition for a resource (col. 2, lines 4-6). The access level for an incoming requested is determined based upon a characteristic of the incoming call, with such characteristics being described as being an inlink type of the call, a telephone number associated with the call, and the like (col. 2, lines 11-16). The switch identifies the resource requested by the incoming connection request and determines an amount of current usage for the resource, and if the amount of current usage is less than the access threshold associated with the assigned access level, *the call is accepted and the resource is allocated to the call* (col. 2, lines 16-21). As can be seen, the cited reference is fundamentally different from the claimed cluster or grid, as the cited reference describes a technique for accepting incoming calls and selectively accepting the call if a resource requested by the call is not over-utilized.

Such selective call-acceptance by a switch does not teach (i) determining whether a monitored resource is *part of a plurality of data processing systems aggregated together in a computing cooperative fashion* (cluster of Claim 1) or determining whether a monitored resource is part of a plurality of client and server data processing systems that operate to provide a plurality of computing resources for a common task (grid of Claim 12), (ii) associating the monitored resource with the plurality of data processing systems aggregated together in a computing cooperative fashion (cluster of Claim 1) or associating the monitored resource with the plurality of client and server data processing systems that operate to provide a plurality of computing resources for a common task (grid of Claim 12), or (iii) *altering a reporting format for monitoring information to report monitoring information for the monitored resource for the cluster* (as per the features of Claims 1) *or grid* (as per the features of Claims

12). It is not reasonable to interpret Schunk's local and remote modems to be either a cluster or a grid, as those terms are commonly known to those of ordinary skill in the art.[3]

In rejecting Claim 1, the Examiner states that Schunk teaches the determining, associating and altering steps of Claim 1 at Schunk col. 18, lines 8-14. Applicants show that there, Schunk states:

> In step 364, the program inquires whether the identified resource resides locally in the receiving FM 10. If the answer is YES, the resource manager 38, in step 366, allocates the identified resource to the call based on the identified VR ID and QoA level. In step 368, the resource manager 38 proceeds to update its local resource table 334 indicating the allocation of the identified resource.

As can be seen, this description is with respect to allocating a resource to an incoming call based on characteristics of the call and the assigned access level (including updating a table to reflect this allocated resource), as described above in the opening summary description of the teachings of this reference. This cited passage provides no teaching of a plurality of data processing systems aggregated together in a computing cooperative fashion, or any determination being made as to whether a particular resource *is a part of another conglomerate resource* such as the claimed cluster. Perhaps even more importantly, this cited passage does not describe any type of *monitoring report or the altering of a format for such a monitoring report.* Instead, it merely describes adding a resource entry to an internal table. Thus, it is urged that the amendment to Claim 1 has overcome the present rejection of Claim 1 under 35 U.S.C. § 102(e).

Applicants initially traverse the rejection of Claims 2 and 4-11 for reasons given above with respect to Claim 1 (of Claims 2-11 depend upon). Claim 3 has been cancelled herewith, without prejudice or disclaimer.

Further with respect to Claim 3, such claim recites "receiving the monitoring information at a resource manager; and aggregating the monitoring information for the composite resource". As can be seen, this claim is directed to the monitoring information, and such monitoring information is received and aggregated. In rejecting Claim 3, the Examiner states that such receiving and aggregating of

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[3] During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004). This means that the words of the claim must be given their **plain meaning** unless the plain meaning is inconsistent with the specification. *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (discussed below); *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004) (Ordinary, simple English words whose meaning is clear and unquestionable, absent any indication that their use in a particular context changes their meaning, are **construed to mean exactly what they say**. MPEP 2111.01(I) (emphasis added by Appellants). The Examiner is not interpreting the claim terms in accordance with their normal, plain meaning.

monitoring information is taught by Schunk at col. 17, lines 58-67. Applicants show that there, Schunk states:

> FIG. 16 is a flow diagram of a resource allocation process according to one embodiment of the invention. When a user initiates a connection request in step 356, the connection manager 46 detects the incoming connection request in step 358 via one of the interface lines, and in step 360, notifies the resource manager 38 residing in the FM 10 receiving the request (the receiving FM).

This cited passage describes detects on incoming *connection request*, and does not describe receiving or aggregating of *monitoring information*. Applicants have amended the claims to further highlight this distinction, as Claim 1 now recites that the monitoring information includes an operational status of the resource. While an incoming call as described by Schunk may request a resource as a part of such call, such request does not include an operational status of such requested resource. Thus, it is further urged that Claim 3 is not anticipated by the cited reference.

Further with respect to Claim 6, such claim recites "wherein associating the monitored resource with the composite resource further includes linking the entry in the resource data structure with an entry in a composite resource data structure". As can be seen, there are two data structures – a resource data structure and a composite resource data structure – with a linking together of an entry from each of these two different data structures. In rejecting Claim 6, the Examiner states that all features recited therein are taught by Schunk at Figure 6 and col. 18, lines 3-7. Applicants urge error, as such cited sections of Schunk describe a single forwarding table used to route IP addresses (col. 11, lines 41-51). The cited passage at col. 18 describes allocating a resource to an incoming call, including adding an entry to a single resource table to reflect such resource allocation. None of these cited sections of Schunk describe any type of linking between two different data structures, as per the features of Claim 6. Thus, it is further urged that Claim 6 is not anticipated by the cited reference.

Further with respect to Claim 8, and for similar reasons to those given above with respect to Claim 6, the cited Shunk reference does not describe any linking between two different data structures. Claim 8 expressly recites "linking the entry in the resource data structure with an entry in the cluster data structure". Thus, it is further urged that Claim 8 is not anticipated by the cited reference.

Further with respect to Claim 9, such claim recites "determining whether the cluster is part of a grid; and associating the cluster with the grid". In rejecting Claim 9, the Examiner states that all of the features of Claim 9 are taught by Shunk's Figure 6. Applicants urge error, as Schunk's Figure 6 is a forwarding table used to route IP addresses (col. 11, lines 41-51). Forwarding of IP addresses does not teach any type of cluster or grid determination, as provided by the features of Claim 9. Thus, it is further urged that Claim 9 is not anticipated by the cited reference.

Further with respect to Claim 10, such claim recites "wherein associating the cluster with the grid includes linking the entry in the cluster data structure with an entry in a grid data structure". In rejecting Claim 10, the Examiner states that all of the features of Claim 10 are taught by Shunk's Figure 6. Applicants urge error, as Schunk's Figure 6 is a forwarding table used to route IP addresses (col. 11, lines 41-51). Forwarding of IP addresses does not teach any type of entry linking between two different data structures such as a cluster data structure and a grid data structure, as provided by the features of Claim 10. Thus, it is further urged that Claim 10 is not anticipated by the cited reference.

Applicants traverse the rejection of Claims 12-20 for similar reasons to those given above with respect to Claims 1-11, as the cited reference also does not teach a grid, as previously described hereinabove.

Therefore, the rejection of Claims 1-20 under 35 U.S.C. § 102 has been overcome.

III. Conclusion

It is respectfully urged that the subject application is patentable over Schunk and is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: June 20, 2008

Respectfully submitted,

/Wayne P. Bailey/

Wayne P. Bailey
Reg. No. 34,289
Yee & Associates, P.C.
P.O. Box 802333
Dallas, TX 75380
(972) 385-8777
Attorney for Applicants

The Limited Monopoly

Patent Law 101 — What Is Patentable?

by John Hammond, PE and Robert Gunderman, PE

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore…"

The Law.

In the United States, federal statute 35 U.S.C. 101 codifies the patentability of inventions, stating that, "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." It sounds simple enough… but this leading statute has been the subject of many arguments, both in court, and in society.

So what does it mean? Let's start at the end. The word "title" refers to Title 35 of the United States Code, collectively referred to as "the patent statutes." Key requirements for patentability that are defined in Title 35 are "newness", i.e. novelty (35 U.S.C. 102), unobviousness (35 U.S.C. 103), and the applicant's provision of a detailed written description of the invention (35 U.S.C. 112). These are subjects for another column (or more).

That leaves us with the two main prongs of 101. For an invention to be patentable, it has to be a.) useful, and b.) considered as within at least one of the four cited categories of patentable subject matter. Historically, this latter requirement has been where much of the controversy occurs.

The History.

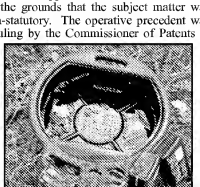
The Patent Act of 1793[1], written by Thomas Jefferson, contains the original statute that has evolved into 101. It has changed very little over time, with the current statute having been enacted in the Patent Act of 1952. The term "art" was changed to "process," but otherwise, Jefferson's original wording remains intact. The law defines the four categories of inventions that are appropriate subject matter of a patent to be a process, a machine (also known as an apparatus), a manufacture (also known as an article), and a composition of matter.

Documents accompanying the 1952 Act show that Congress intended statutory subject matter to "include anything under the sun that is made by man."[2]. Yet precisely what Congress intended in all cases is not so simple, due to the very nature of technology and invention. Who is to say what the 82nd Congress intended in light of some modern inventions, with technologies *that didn't even exist* in 1952?

The Evolution.

Answer: The Courts. This is well illustrated in the case of *Diamond v. Chakrabarty*.[3] Anand Chakrabarty, a biochemist at General Electric, invented a bacterium in the early 1970s that could break crude oil down into harmless byproducts. It was clearly useful for oil spill remediation. Using cutting edge technology of the day, it was attained through genetic modification – in other words, by the action of man, not by nature.

In June of 1972, Chakrabarty applied for a patent on his invention. The Patent Office rejected his application under 35 U.S.C. 101, on the grounds that the subject matter was non-statutory. The operative precedent was a ruling by the Commissioner of Patents in



1889[4] that one could not obtain a patent on living subject matter, i.e. "products of nature." Chakrabarty appealed to the Patent Office Board of Appeals and was denied, but subsequently, the U.S. Court of Customs and Patent Appeals overturned the Patent Office Board of Appeals in Chakrabarty's favor. Sidney Diamond, the Commissioner of Patents and Trademarks, then appealed the case to the U.S. Supreme Court.

In a narrow 5 – 4 landmark decision in June of 1980, the Supreme Court ruled in favor of Chakrabarty. One key point cited by the Court was that, "His claim is not to a hitherto unknown natural phenomenon, but to a nonnaturally occurring manufacture or composition of matter – a product of human ingenuity…" On March 31, 1981, U.S. patent 4,259,444 issued to Chakrabarty and his assignee, General Electric. The "References Cited" by the Patent Office on the cover page included only three journal citations, and *no patents*. That was because no patent prior art existed – an exceedingly rare situation.

Subsequent rulings within the Patent Office and the courts have found higher organisms including animals to be statutory subject matter. In an early case, *Ex Parte Allen*[5], the Board of Patent Appeals and Interferences found that an oyster that was chromosomally altered in a laboratory was patentable under 101. Shortly thereafter, citing *Allen* as precedent, the Patent Office issued U.S. patent 4,736,866, "Transgenic Non-Human Mammals" for a genetically modified mouse, to researchers Phillip Leder and Timothy Stewart at Harvard University.

The very title of this patent begs the question… so what about patenting genetically engineered humans? The rapidly evolving field of genetic engineering, and rulings such as *Chakrabarty* had generated a firestorm of controversy through the 70s and 80s. In its *Ex Parte Allen* ruling, the BPAI was sensitive to this issue, and further stated that human beings cannot be patented. Yet it was not the patent statutes that were the basis of this ruling. Instead, it was the 13th Amendment, which states that, "Neither slavery nor involuntary servitude… shall exist within the United States." Since one human cannot hold a property right over another human, and since a patent is a form of property right, the BPAI held that patenting of a human is not permitted.

Where will it all end?

Well… it won't. The law must continue to evolve in order to keep pace with technology, commerce, and the public interest. Currently, the hotly contested areas pertain to business methods and software patents, as well as the life sciences. And the questions posed go far beyond those of intellectual property rights, extending to matters of public policy and bioethics – as well as deeply held personal and religious beliefs.

1. Act. of Feb. 21, 1793, ch. 11, §1, 1 Stat. 318.
2. S. Rep. No. 1979, 82d. Cong., 2d. Sess., 5 (1952); H. Rep. No. 1923, 82d. Cong., 2d. Sess., 6 (1952);
3. *Diamond v. Chakrabarty*, 447 U.S. 303, 308-09, 206 USPQ 193, 197 (1980).
4. *Ex parte Latimer*, 1889 Dec. Com. Pat. 123.
5. *Ex parte Allen*, 2 U.S.P.Q. 2d, p. 1425, BPAI, 1987.

***Authors John M. Hammond P.E. (Patent Innovations, LLC** www.patent-innovations.com) **and Robert D. Gunderman P.E. (Patent Technologies, LLC** www.patent-technologies.com**) are both registered patent agents and licensed professional engineers. They offer several courses that qualify for PDH credits. More information can be found at** www.patent-technologies.com.*

Note: This short article is intended only to provide cursory background information, and is not intended to be legal advice. No client relationship with the authors is in any way established by this article.